

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

The specification has been amended on pages 1 and 2.

New claims 13-20 have been added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-20 are now pending in this application.

Objection to the Specification

The specification is objected to for containing informalities. Applicant respectfully submits that the amendments to the specification render this objection moot. Reconsideration and withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 112

Claims 1-12 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant respectfully submits that the amendments to the claims render these rejections moot. Reconsideration and withdrawal of these rejections is respectfully requested.

Rejection under 35 U.S.C. § 102

Claims 1-3 and 6 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 99/50480 to Gal-Or *et al.* (hereafter "Gal-Or"). This rejection is respectfully traversed.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See generally MPEP 2131.

Gal-Or discloses a method of electrophoretic deposition of ceramic bodies in which a first suspension of ceramic particles and a second suspension of ceramic particles are used to

provide uniform, parallel layers that form a green body, which is then coated and sintered. See Gal-Or at page 1, lines 5-8; page 3, lines 3-23; page 6, lines 6-24. Gal-Or discloses that method uses a deposition electrode that is coated with a conductive material, such as gypsum coated with silver paint, and that the electrode is a duplicate dental die having a shape identical to a desired interior shape of a ceramic article. See Gal-Or at page 4, lines 16-19; page 10, lines 1-8.

However, Gal-Or does not disclose a method of producing fully ceramic tooth elements having a pre-determined spatial form by electrophoresis comprising, among other things, arranging an electrically conductive chip, or a chip which has been rendered electrically conductive and conducting electrophoresis, wherein the chip comprises regions of different electrical conductivity, wherein stronger electrical currents in regions of higher electrical conductivity provide increased deposition of a framework material in comparison to regions of lower electrical conductivity, such that the framework material is provided in a desired shape, as recited in claim 1. Claims 2, 3, and 6 depend from claim 1.

The Office notes on page 4 of the Office Action that gypsum and silver paint have different conductivities and would be arranged in different regions of Gal-Or's electrode. With this statement the Office apparently argues that an electrode made of gypsum and coated in silver paint would provide a chip with a chip with different regions of electrical conductivity because the silver paint in the electrode of Gal-Or would provide a higher conductivity than the gypsum in the electrode. Applicant respectfully disagrees.

Gal-Or does not disclose a method, "wherein stronger electrical currents in regions of higher electrical conductivity provide increased deposition of a framework material in comparison to regions of lower electrical conductivity," as recited in claim 1. Instead, Gal-Or teaches that layers of deposited material are formed in uniform, parallel layers. See Gal-Or at page 6, lines 17-24. Thus, Gal-Or discloses deposited layers of uniform thickness, not layers with thicknesses that vary due to regions of higher and lower electrical conductivity, as recited in claim 1.

Furthermore, Gal-Or does not disclose or suggest that the electrode of Gal-Or has regions of different conductivity. Gal-Or does not suggest that a electrode made of gypsum would properly function to deposit material during electrophoresis without a coating of conductive material. Nor does the Office provide any evidence or technical reasoning to

demonstrate that gypsum alone without, a conductive coating, would actually deposit material in an electrophoresis operation.

For at least the reasons discussed above, reconsideration and withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claim 4

Claim 4 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or in view of U.S. Patent No. 4,246,086 to Hennicke *et al.* (hereafter “Hennicke”). This rejection is respectfully traversed. Hennicke fails to remedy the deficiencies of Gal-Or discussed above in regard to independent claim 1, from which claim 4 depends. Furthermore, the teachings of Hennicke are not applicable to the process of Gal-Or because the process of Hennicke involves the uniform application of a noble metal, not a ceramic, by using an acid solution to activate a surface for galvanic deposition where an intermediate layer of zinc is desired. Hennicke does not disclose or suggest soaking an electrode in an electrophoresis process. Thus, one of ordinary skill in the art would not have looked to the teachings of Hennicke when considering modifications to the process of Gal-Or. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 5 and 9

Claims 5 and 9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or in view of U.S. Patent 3,454,429 to Gruber (hereafter “Gruber”). This rejection is respectfully traversed. Gruber fails to remedy the deficiencies of Gal-Or discussed above in regard to independent claim 1, from which claims 5 and 9 depend. Furthermore, the tape of Gruber is used as a separator in a fuel cell, not an electrophoresis process. One of ordinary skill in the art would not have looked to the teachings of Gruber when considering modifications to the device of Gal-Or because the fuel cell device of Gruber is not in the same field and does not address the problems and challenges contemplated by the Applicant. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 7

Claim 7 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or and Hennicke in view of Gruber. This rejection is respectfully traversed. As discussed above, Hennicke and Gruber fail to remedy the deficiencies of Gal-Or discussed above in regard to independent claim 1, from which claim 7 depends. Furthermore, one of ordinary skill in the art would not have considered the teachings of Hennicke and Gruber when considering modifications to the electrophoresis process of Gal-Or. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 8

Claim 8 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or in view of DE 100 49 971 to Juergen (hereafter “Juergen”). This rejection is respectfully traversed. Juergen fails to remedy the deficiencies of Gal-Or discussed above in regard to independent claim 1, from which claim 8 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 10

Claim 10 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or in view of U.S. Patent No. 4,626,482 to Hamlen *et al.* (hereafter “Hamlen”). This rejection is respectfully traversed. Hamlen fails to remedy the deficiencies of Gal-Or discussed above in regard to independent claim 1, from which claim 10 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 11 and 12

Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gal-Or. This rejection is respectfully traversed. The Office argues on page 8 of the Office Action that it would have been obvious to provide a chip with the shapes of claims 11 and 12 because Gal-Or discloses that the electrode can have a shape of the interior of a ceramic article. Applicant respectfully disagrees. Gal-Or does not disclose or suggest that an electrode can have the shapes recited in claims 11 and 12 or that the interior of a

ceramic article can have the shapes recited in claims 11 and 12. The Office appears to take official notice in regard to the chip shapes recited in claims 11 and 12, which are not well known in the art, as evidenced by the deficiencies of Gal-Or. Applicant respectfully requests that the Office provide prior art to show the features of claims 11 and 12 or withdraw the rejection. Reconsideration and withdrawal of this rejection is respectfully requested.

New Claims

New claims 13-20 have been added. Claims 13-19 depend from claim 1 and are allowable over the prior art for at least the reasons discussed above and for their respective additional recitations.

New claim 20 recites an electrophoresis process for producing ceramic tooth elements with a predetermined spatial form, comprising, providing an electrically conductive chip, wherein the chip comprises regions of relatively low electrical conductivity and regions of relatively high electrical conductivity, and conducting electrophoresis to deposit a framework material, wherein the regions of relatively high electrical conductivity provide an increased amount of deposited framework material at the regions of relatively high electrical conductivity, while the regions of relatively low electrical conductivity provide a lesser amount of deposited framework material than the regions of relatively high electrical conductivity.

The prior art relied upon by the Office does not disclose or suggest an electrophoresis process that uses a chip with regions of relatively low electrical conductivity and regions of relatively high electrical conductivity that provide different amounts of deposited framework material, as recited in claim 20. For example, Gal-Or only discloses an electrode that deposits uniform layers of material, not layers that vary due to varying electrical conductivity. Thus, claim 20 is allowable over the prior art relied upon by the Office.

CONCLUSION

Applicant submits that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By P.D.S.

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